

Work Order ID 131395

131395

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April-08-15 7:15:16 AM

Item ID: D3118-3 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Sign Assembly *S CL 15/04/14*
 Start Date: 4/08/15 Start Qty: *8.00* ***8*** Cust Item ID:
 Required Date: 5/08/15 Req'd Qty: *8.00* ***8*** Customer:
 Reference:

Approvals: Process Plan: *U* Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D3118	E

100 PURCHASING 0.00 *CL* APR 13 2015 *(28) 5*

100

Purchasing

Purchasing

Memo

Issue P/O: *28092*
 Manufacture as per dwg D3118

Possible Supplier: SRB TECHNOLOGIES
 Supplier P#: 9004043

Material release note required

Sign should be self-luminous to min. brightness of 160 microlamberts

110

Receive & Inspect for Damage & Mat'l Certs 0.00

110

Packaging

Packaging

Memo

Ensure Material Release Note is attached

5x Sp 15-06-25

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Item ID: D3118-3

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Sign Assembly

Stop

NS2

Start Date: 4/08/15 Start Qty: 8.00

8

Cust Item ID:

Required Date: 5/08/15 Req'd Qty: 8.00

8

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC6- Inspect dimensions to drawing	0.00							38 9-89
120									
QC	Memo	0.00							
Quality Control	Check dims to dwg and certification attached								JUN 26 2015
130	Identify as per dwg & Stock Location: <u>51018</u>	0.00							
130									
Packaging	Memo	0.00							
Packaging									<u>CX 15/06/26</u> (5)
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.01							
Quality Control									<u>MLJ</u> JUN 29 2015

MLJ JUN 29 2015

April-08-15 7:15:15 AM

131395

D3118-3

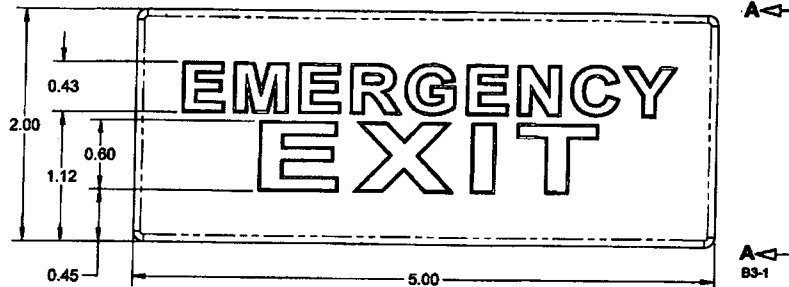
Required Date: 5/08/15

Required Qty: 8.00

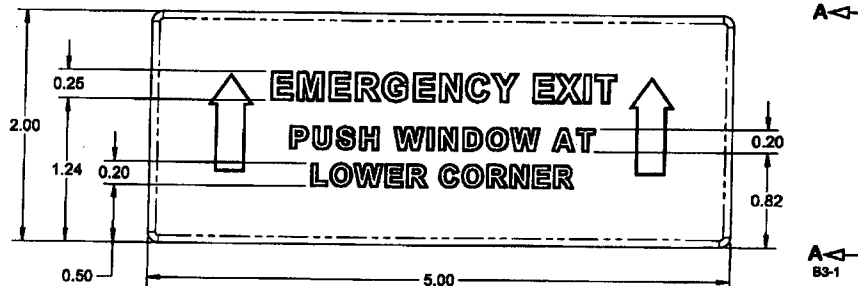
IPP REV:B

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
9004043		Purchased		No			Each	0.0000					
9004043 Sign Assembly ** 5 15-06-25 DAS 26 9-89													

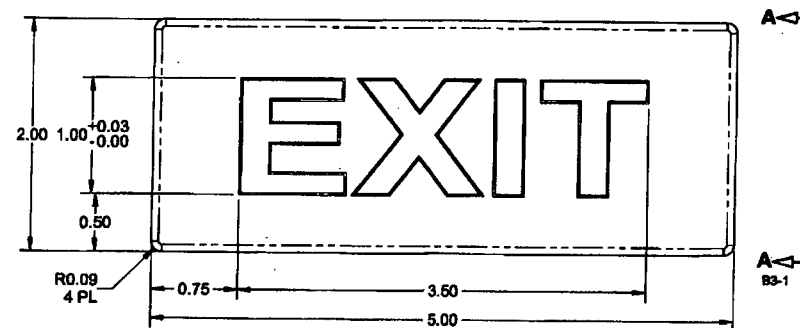
SPECIFICATION CONTROL DRAWING



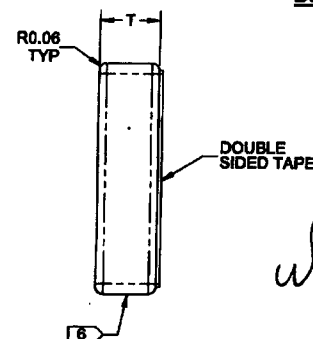
D3118-1 SIGN ASSEMBLY
REPLACES PREMIER P/N 027-57000-01,
BHT P/N 46660-01008-00



D3118-3 SIGN ASSEMBLY
REPLACES PREMIER P/N 027-57000-03,
BHT P/N 212-072-637-107



D3118-5 SIGN ASSEMBLY



VIEW A-A C5-1
C1-1
B6-1

NOTES:

- 1) MATERIAL: POLYCARBONATE
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: WITH DART P/N "D3118-X" AND B/N "BXXXX" PER DART QSI 044 8.1
- 7) WEIGHT: 0.30 lbs EACH
- 8) POSSIBLE SUPPLIER: SRB TECHNOLOGIES (CANADA), INC
320-140 BOUNDARY ROAD
PEMBROKE, ONTARIO, K8A 6W5
PHONE: 613-732-0055
FAX: 613-732-0058
- 9) SEE TABLE FOR SUPPLIER PROCUREMENT P/N'S
- 10) SIGNS SHOULD BE A RED BACKGROUND, CLEAR LETTERING WITH WHITE BORDER AROUND EACH LETTER
- 11) SIGNS SHOULD BE SELF-LUMINOUS TO MINIMUM BRIGHTNESS OF 160 MICROLAMBERTS

REV.	DESCRIPTION	BY	DATE
E	REVISE SUPPLIER AND SUPPLIER PART NUMBERS	SFM	13.07.16
D	UPDATED TO COMPLY WITH QSI 043; ADDED SUPPLIER P/N PROCUREMENT CHART (ZNA4-1). REF: PART 11-127.	MB	11.11.02
C	ADD D3118-5	RF	05.02.22
B	ADD MINIMUM BRIGHTNESS = 160 MICROLAMBERTS	RF	04.05.05
A	NEW ISSUE	RF	02.04.15
DESIGN	DESIGNED BY	DATE	
DRAWN	DRAWN BY	DATE	
CHECKED	CHECKED BY	DATE	
MFG. APPR.	MFG. APPR. BY	DATE	
APPROVED	APPROVED BY	DATE	
DE APPR.	DE APPR. BY	DATE	
DATE	13.07.16		

DART PART NUMBER	SUPPLIER PART NUMBER	THICKNESS "T"
D3118-1	9004030	0.52
D3118-3	9004043	0.52
D3118-5	9004001	0.66

RELEASED
2013-08-01
1/10

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. **D3118** REV. E
SHEET 1 OF 1
TITLE **SIGN ASSEMBLY** SCALE NTS

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Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO28092**

Purchase Order Date 4/13/2015

PO Print Date 4/14/2015

Page Number 1 of 2

Order From :

VC-ROY001

RBC ROYAL BANK - VISA
PAYMENT CENTRE, PO BOX 4016, STAT. A
TORONTO, ON M5W 1X6
CA

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

REVISED \$

Contact Name

Vendor Phone

Ship To Contact

Ship To Phone

Ship Via:

FedEx Overnight collect

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax #

10127-2607

Terms

COD

Currency

CAD

FOB

Destination-Collect

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	9004043 AS PER DWG D3118 REV. E B131395 SRB TECHNOLOGIES P/N: 9004043	Sign Assembly	7/3/2015 Yes 7/3/2015		5.00 Each ✓	\$386.12	\$1,930.60
						Line Total:	\$1,930.60
3	9004043 AS PER DWG D3118 REV. E B131533 SRB TECHNOLOGIES P/N: 9004043, EXPEDITED FEE FOR 3 UNITS	Sign Assembly	5/20/2015 Yes 5/20/2015		3.00 Each ✓	\$772.24	\$2,316.72
						Line Total:	\$2,316.72

PO Instructions: SRB TECHNOLOGIES
VISA: 4516 0500 0527 9033
EXP: 10/16 CID 351

Note:

4/14/2015

SRB TECHNOLOGIES (CANADA) INCORPORATED**SRB21752**

320 Boundary Road, Suite 140, Pembroke, Ontario, Canada; Phone (613) 732-0055

SHIPMENT PACKING SLIP AND MANIFEST

DATE:	June 23, 2015
WAYBILL #:	Fedex: 5820 8845 2754
DESTINATION:	Dart Aerospace Ltd; Hawkesbury, ON, Canada

[illegible]**TYPE OF SHIPMENT:**☐ UN2915 ☒ UN2911 ☐ UN2910 ☐ REGULAR

☐	OTHER (SPECIFY):	
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NO. OF PACKAGES:		1	PACKED BY:		Shane Pleau - Import and Export Manager	
TOTAL ACTIVITY:		21.25	Ci.	ATTN: Chantal Lavoie		
DIM (in):	9 X 9 X 11		<i>www.betalight.com</i>		SHIPMENT WEIGHT (lbs.)	3

**SRB TECHNOLOGIES (CANADA) INC.**

320-140 Boundary Road
Pembroke, Ontario, Canada, K8A 6W5

Tel.: (613) 732-0055

Fax: (613) 732-0056

E-Mail: sales@betalight.com

Web: www.betalight.com

CERTIFICATE OF CONFORMANCE

ACCOUNT TO:

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON
Canada K6A 1K7

CERTIFICATE OF CONFORMANCE ID:

CDN003570

YOUR REFERENCE:

PO28092

OUR REFERENCE:

PO28092

DATE:

June 22, 2015

ITEM #	PART NUMBER	DESCRIPTION/ SPECIFICATION	QUANTITY	REMARKS/ DELIVERY POSITION
1	D3118-3 (9004043) SRBT P/N: 9004043	Sign Assembly T 4.25 Ci. (157.25 GBq) S/N's: 25426 - 25430	5	Batch # B28092 (PO28092) Mfg. June/2015

This is to certify that the whole of the material and/or parts described herein have been manufactured to the quality standards registered under ISO 9001:2008 and conform to the full specification of the appropriate drawings and purchase order requirements.

Test methods for Betalights™ and devices containing Betalights™, including leakage and surface contamination, conform to the British Defence Standard 62-4/4 and/or ANSI/HPS N43.4-2000.

Signed for on behalf of SRB Technologies (Canada) Inc.


N. Belleau, Quality Manager



Canadian Nuclear Safety Commission

Radiation Safety Data Sheet

This data sheet presents information on radioisotopes only.

For information on chemical compounds incorporating this radionuclide, see the relevant Material Safety Data Sheet.

Part 1 - RADIOACTIVE MATERIAL IDENTIFICATION

Chemical Symbol:	H	Common Names:	Tritium
Atomic Weight:	3	Atomic Number:	1

Part 2 - RADIATION CHARACTERISTICS

Physical Half-Life: 12.35 years

Unconditional Clearance Levels: Activity Concentration (Bq/g) 1×10^2

CNSC Exemption Quantity: Activity Concentration (Bq/g) 1×10^6
Activity (Bq) 1×10^9

Principal Emissions	Average Energy of Most Abundant Emission (MeV)	Maximum Energy of Most Abundant Emission (MeV)	Gamma-Ray Dose Rate at 1m Distance (mSv/h per GBq)	Shielding Information ¹
Neutrons	-	-	-	-
Gamma & X-ray	-	-	-	-
Beta* & Electron	0.0057	0.0186	-	Total absorption: <0.1 mm glass or <0.1 mm plastic
Alpha	-	-	-	-

* Where beta radiation is present, bremsstrahlung radiation will be produced. Shielding for bremsstrahlung radiation must be considered.

¹Delacroix, D. et al, Radionuclide and Radiation Protection Data Handbook 2002.

Progeny

Part 3 - DETECTION AND MEASUREMENT

Method of Detection:

Wipes counted by a beta probe (e.g., wipes counted by a liquid scintillation counter)

Dosimetry:

External: TLD (whole body & skin) _____ Extremity _____ Neutron _____

Internal: Whole body _____ Thyroid _____ Urine analysis ☒ Other (specify) _____

Part 4 - PREVENTATIVE MEASURES

Tritium is not a radiation hazard unless it enters the body. Once in the body, tritiated water is uniformly distributed in the body water and can then expose tissue. The dose from inhaled elemental tritium gas is 10,000 times less than that from tritiated water. Tritiated water can be absorbed through the surface of skin, leading to an internal exposure. Gaseous tritium is a fire and explosion hazard when exposed to heat or flame and can react vigorously with oxidizing materials.

Recommended protective clothing: Lab coat and PVC gloves (0.5 mm thick) are preferred because of this material's low permeability to tritiated water. Many tritium compounds readily penetrate gloves and skin. Handle these compounds remotely, wear two pairs of gloves and change the outer layer at least every twenty minutes. Plastic aprons provide added protection especially against tritiated water. Plastic suits may be necessary for work at TBq levels or in an atmosphere contaminated with tritiated water.

Handle tritiated water, gases and volatile liquids in ventilated enclosures. Use glass containers to store tritium compounds because tritiated water and tritiated organic solvents will pass through plastic. Use disposable absorbent liners on trays.

Consult CNSC license for requirements concerning engineering controls, protective equipment, and special storage requirements.

Part 5 - ANNUAL LIMIT ON INTAKE

	Ingestion	Inhalation	
Compound Type	Tritiated water	Tritiated water	Elemental tritium gas
Annual Limit on Intake (Bq)	1.0×10^9	1×10^9	1.0×10^{13}

EMERGENCY PROCEDURES

The following is a guide for first responders. The following actions, including remediation, should be carried out by qualified individuals. In cases where life threatening injury has resulted, **first** treat the injury, **second** deal with personal decontamination. In the case of an emergency, the Radiation Safety Officer should be contacted as soon as practicable.

Personal Decontamination Techniques

- Wash well with soap and water and monitor skin
- Do Not abrade skin, only blot dry
- Decontamination of clothing and surfaces are covered under operating and emergency procedures

Spill and Leak Control

- Alert everyone in the area
- Clear area
- Summon Aid

Emergency Protective Equipment, Minimum Requirements

- Gloves
- Footwear Covers
- Safety Glasses
- Outer layer or easily removed protective clothing
- Suitable respirator selected

Canadian Nuclear Safety Commission
P.O. Box 1046, Station B
Ottawa, Canada
K1P 5S9

Tel: (613) 995-5894 Fax: (613) 995-5086
24 Hour Emergency Hotline: (613) 995-0479

Revision number: 1

Date of revision: 19 September 2011